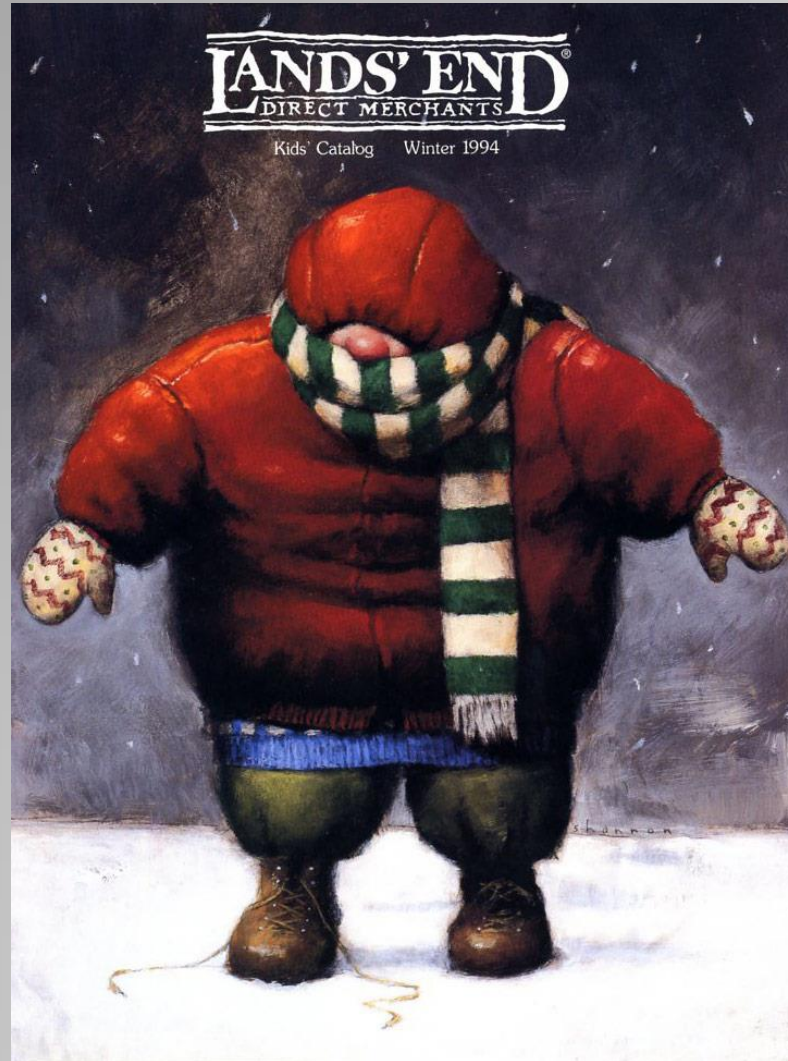


Fastening and Attachment Issues for Exterior Foam Sheathing

Michael Fischer, Kellen Company
Code Consultant to the
Polyisocyanurate Insulation
Manufacturers Association (PIMA)



Continuous Insulation: Not A New Idea



Benefits of “ci”

- Significantly Reduced Thermal Bridging
- Air Sealing Benefits
- Additional Structural Resistance
- Sound Transmission Reduction



Fastening Concerns

- Overall Wall Thickness
- Support for Exterior Cladding
- Water Management and Integration to Weather Resistive Barrier
- Flashing at Exterior Penetrations
- Window and Door Installation and Flashing



Design Issues

- Water Management
 - Additional WRB or Not?
 - Drainage Plane
- Wind Resistance
- Thermal Performance
- Air Barrier Requirements



Resources

- ACC Foam Sheathing Committee
- Building America
- Building Science Corporation
- Polyisocyanurate Insulation Manufacturers Association
- Green Building Advisor



Building America Report 1406

Final Measure Guideline:

Incorporating Thick Layers of Exterior Rigid Insulation on Walls

November 2014 Joseph Lstiburek and Peter Baker

This measure guideline provides information regarding the design and construction of wall assemblies that are using thick layers of rigid exterior insulation (in excess of 1.5 inches) that require a secondary cladding attachment location exterior of the insulation to be provided. The document is separated into several distinct sections that cover: 1) fundamental building science principles relating to the use of exterior insulation on wall assemblies, 2) design principles for tailoring the use to the specific project goals and requirements, and 3) construction detailing to help with the understanding of how the various elements of the design are implemented.



Common Sense Principles

- Wall Thickness
- Window Flange Attachment
 - Increased Framing Depth at Window Rough Opening
 - Masonry Clips
- WRB Integration
 - Taped Sheathing
- Flashing Integration



Reference Links

www.buildingscience.com

<http://fsc.americanchemistry.com/>

<http://www.polyiso.org/>

<http://www.greenbuildingadvisor.com/>

<http://energy.gov/eere/buildings/building-america-bringing-building-innovations-market>

